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Standard Form 298 (Rev. 8-98)  
Prescribed by ANSI Std. Z39-18

20001031 062

# Telemetry Data Center

Naval Air Warfare Center Aircraft Division  
Patuxent River, Maryland





**Range Instrumentation Division**

## **Telemetry Branch Assets**



### **• RTPS (Real-Time Processing System)**

#### **7 Stream Central System, Each With:**

- Four 10 Mbps PCM IRIG or non standard inputs.
- 64 analog inputs.
- 7 Color graphic displays - multifunction:  
flutter, schematics, 3D, barchart, cockpit symbology, etc.
- EU data, all outputs, via Aydin S2K front-end.
- Derived measurements, limit checks, applications programs.
- TSPI inputs from & TM selected parameters to RCCS/EW.
- Universal capability for Fixed-wing, Rotary Wing and Avionics.
- Quick response; unique software not required.
- Accredited for classified work.





Range Instrumentation Division

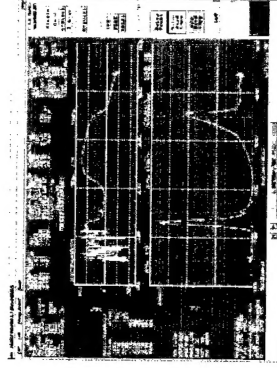
## Telemetry Branch Assets



### •RTPS (Cont)

#### 1553 Processing, IIRIG standard format:

- Automated decoding
- Message and measurement ID and throughput



#### Flutter Test Flight Capability :

- Only Navy facility that can support Flutter flight testing
- Integral to 7 streams
- Runs concurrently with all Real-Time Applications
- Utilizes advanced frequency and time domain based techniques





## Range Instrumentation Division

# Telemetry Branch Assets

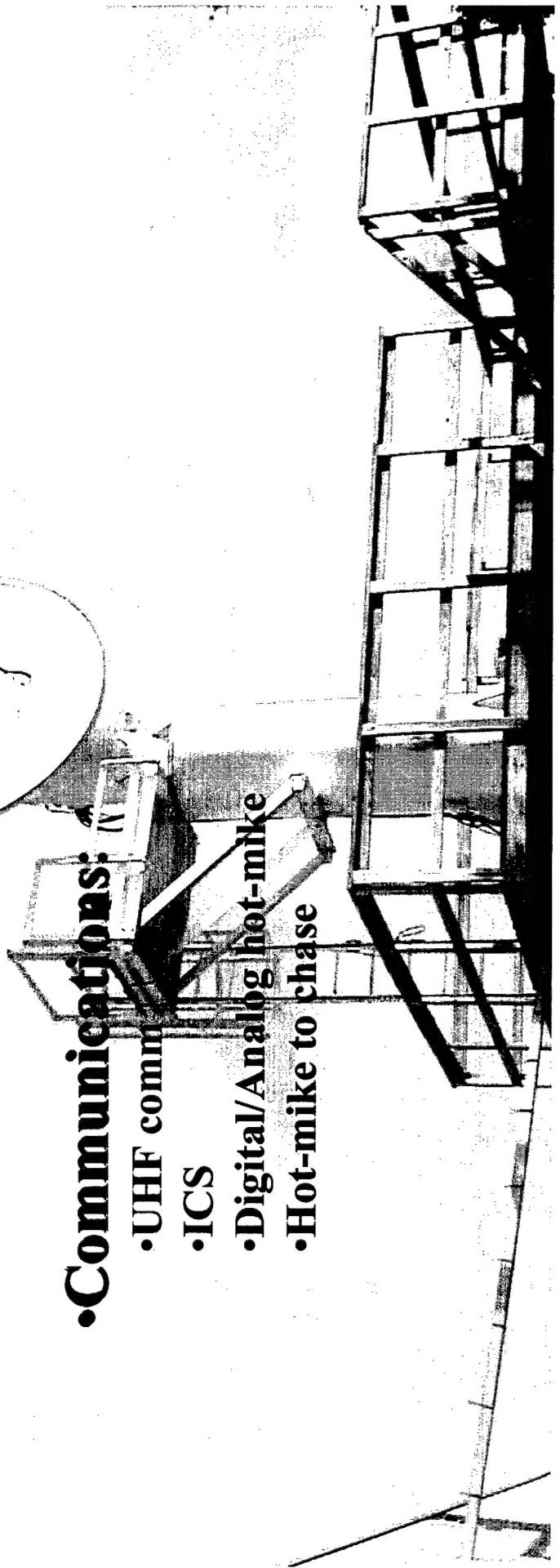


### •Antenna Assets:

- 8 telemetry antenna systems at Pax
- 4 antennas at NASA Wallops Flight Facility
- 1 Transportable trailer mounted dual axis antenna
- 2 Portable single axis antennas

### •Communications:

- UHF comm
- ICS
- Digital/Analog hot-mike
- Hot-mike to chase





# Telemetry Branch Assets



## Extended TM Coverage

### NASA WALLOPS FLIGHT FACILITY

- 4 TM antennas
- Digital microwave link to Pax, 8 channel, 40 Mbps capacity
- Digital microwave link, 6 Mbps capacity
- 2 analog microwaves, 1.5 MHz each, or one single 6 MHz video channel
- 6 instrumented tracking radars
- MATS/GPS coverage
- Targets
  - Drone - BQM-74S or BQM-34S
  - Stationary - retired ships

### G-1 (GULFSTREAM)

- Airborne TM relay, recording & quick-look displays
- PCM, PAM
- L&S band auto track, receive & re-rad
- Flight termination, command & target control
- MATS/GPS relay



# Telemetry Branch Assets



## Extended TM Coverage (Cont)

### SATCOM

- 12 meter Earth Station
- Handles TM, timing, and voice
- CONUS coverage



### REMOTE-SITE SUPPORT

- Provide air, land and carrier based mobile/remote support.



## **Rang Instrumentation Division**

# **Telemetry Branch**

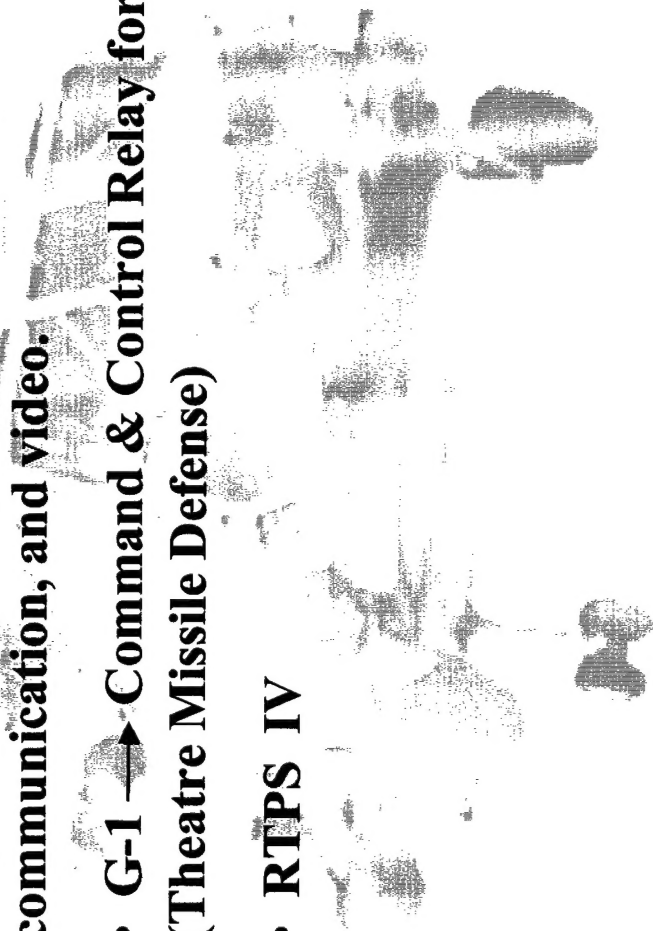


## **FUTURE ASSETS**

• "TM Anywhere" via DREN (Defense Research & Engineering Network) includes data, voice communication, and video.

• G-1 → Command & Control Relay for TMD (Theatre Missile Defense)

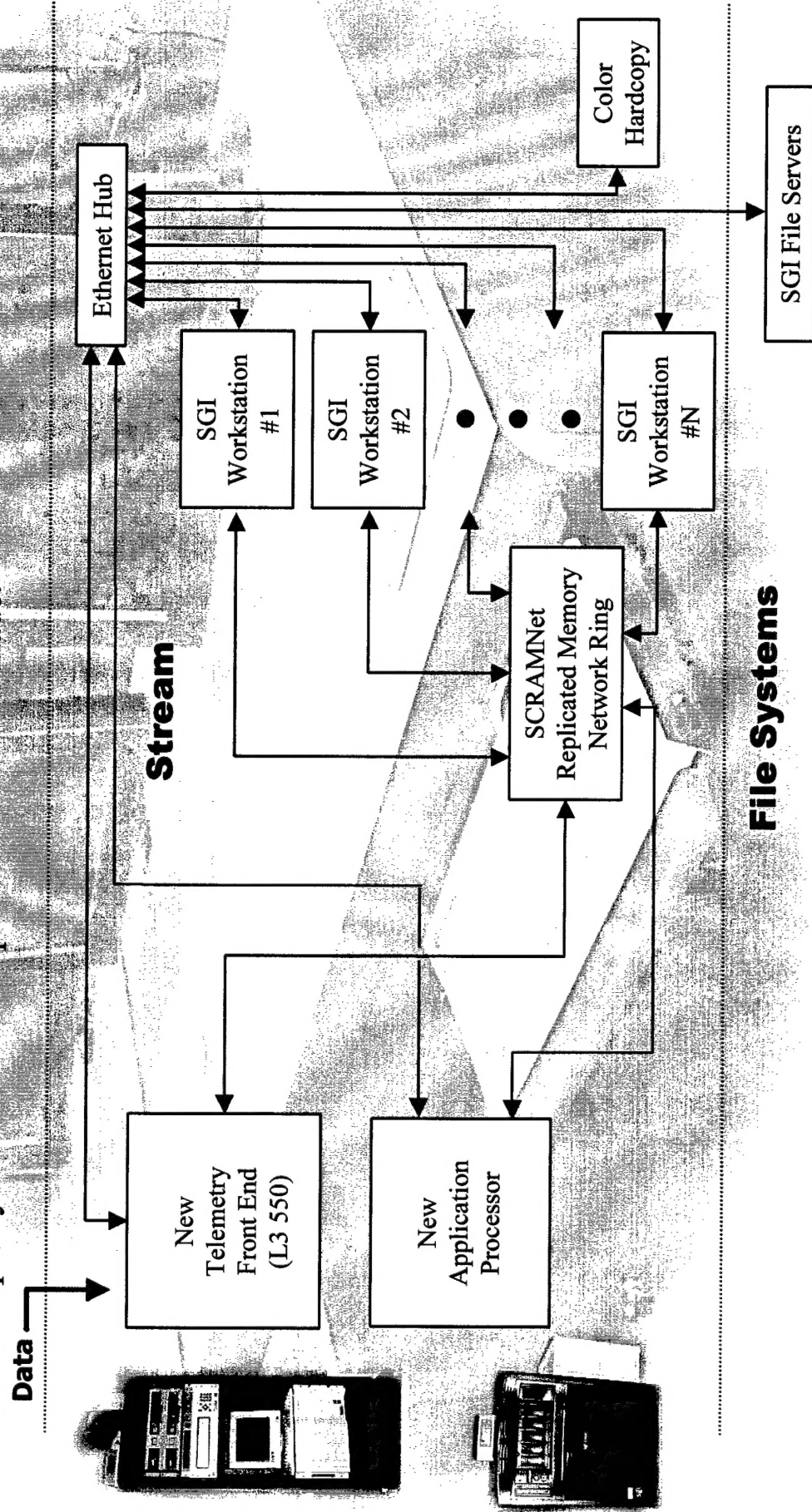
• RTPS IV



# Prototype RTPS IV Architecture

*Gradual Replacement (over four years) of RTPS III systems began in FY00, funded by I&M budget.*

- Encore/Aydin/Adage equipment will be removed.
- New Telemetry Front End and Application Processing resources will be added.
- Existing SGI and SCRAMNet assets will remain, allowing for transparent transition of current projects.
- New display capabilities will be added.
- Data rate capacity infrastructure improvements will be made.



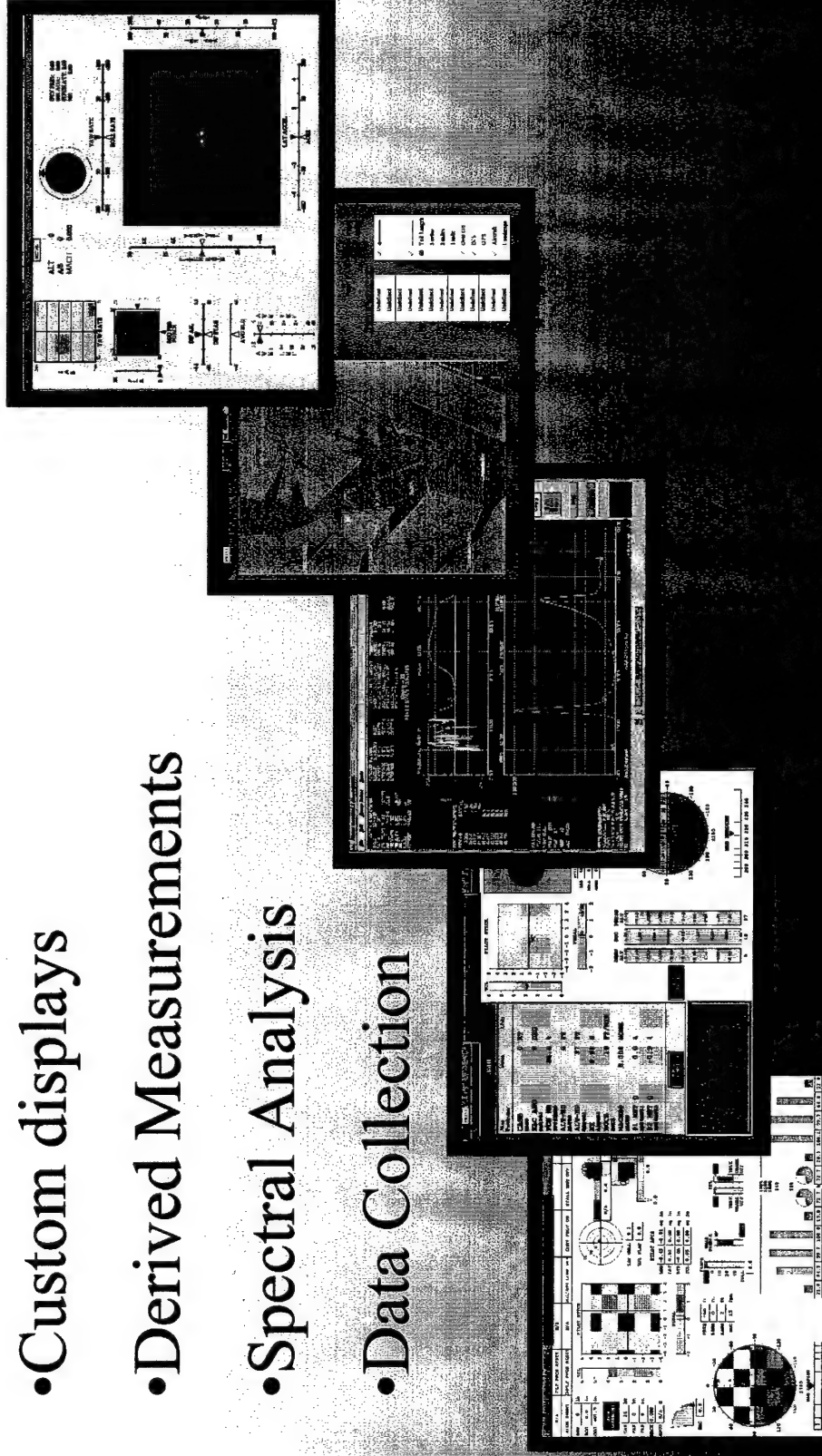


# Prototype RTPS IV Console Layout

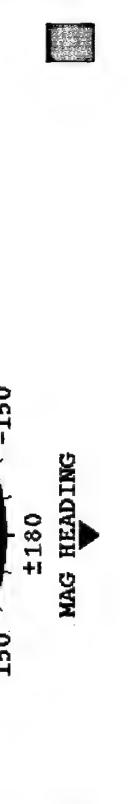


# Real-Time Applications Products

- Custom displays
- Derived Measurements
- Spectral Analysis
- Data Collection



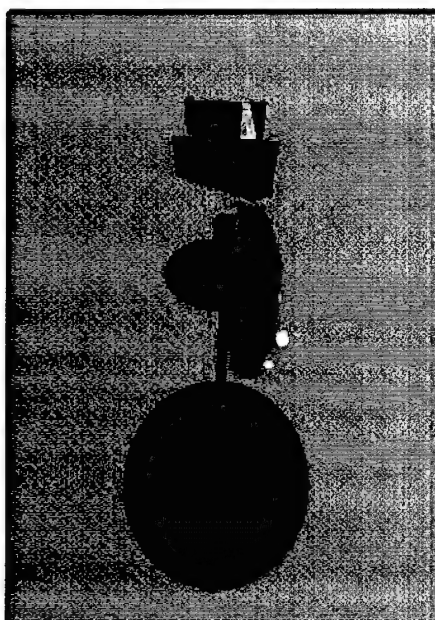
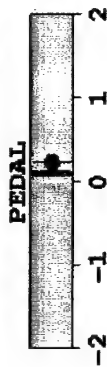
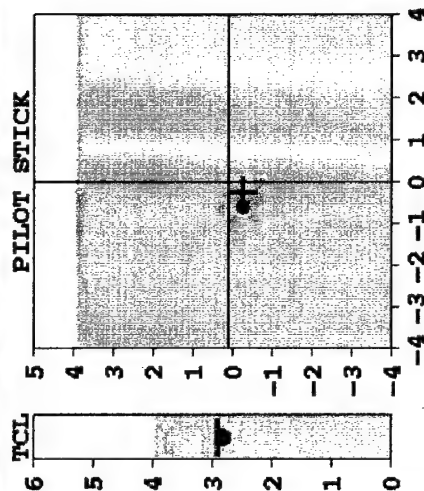
MAG HEADING ▼



## FLIGHT

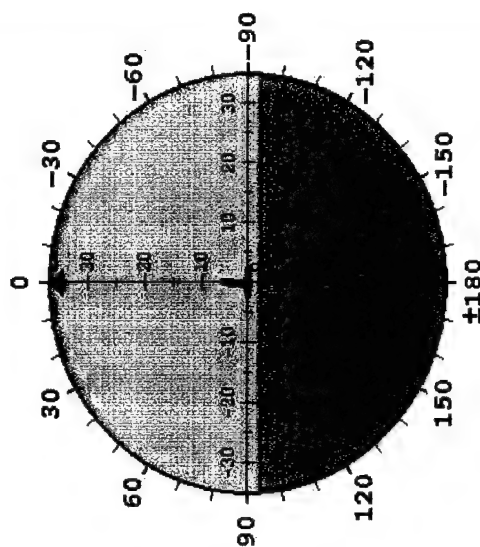
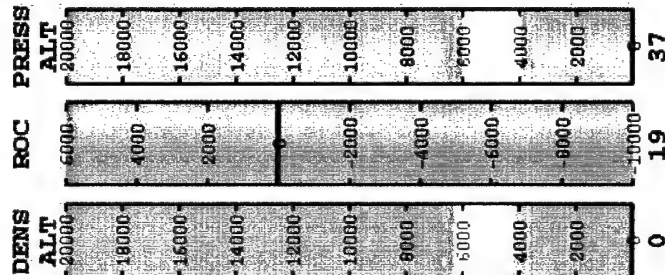
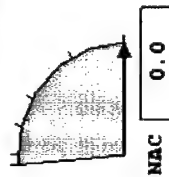
Alias Parameter	Value	Units
--------------------	-------	-------

CASB	0	KT
CASB		
NAC ANG	0	DEG
DM8203		
FCS NR	36.0	%
BP82RM09		
ALT-HD	0	FT
ALTDB		
ALT-HP	37	FT
00DV02		
NZ	0.98	G
00GV05		
ROCB	19	FT/MIN
ROCB		
MACHB#	0.000	NONE
MACHB		
#1 MST Q	0.0	%
BP20MT51		
#2 MST Q	-0.3	%
BP20MT53		

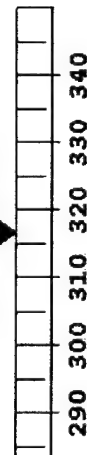
DISPLAY  
DESCRIPTIONSHOW  
DATA CODES

ATTITUDE	
AOA	44.8
ROLL	0.2
AOSS	-88.2

RATE	
PITCH	0.0
ROLL	0.0
YAW	-163.0



MAG HEADING





FILE NAME:  
wasetu22.f31

ENDING CONDITIONS  
TIME 12:41:19  
RUN# 8 000  
RECUPROG 99 000  
NB ALT -357.580  
NB MACH 0.000  
NB EQ AS 0.000  
INS NZ 0.997  
INT FUEL 13799.000

CURRENT VALUES  
XHD911 15.000  
Y79102 1.000  
X16710 84.115  
X16720 84.712  
X16742 -11.861

14:12:09 - CFILE: 16407407  
04/30/97 - FLT ID: PBL7S  
F/A-18 E1 FLUTTER TEST  
CONFIG: CLEAN WING  
STA 1 AND 11: LAU-127,  
& CATM-98  
STA 5 AND 7: LAU-116

Group - 02  
F18 E1 STAB PARAMS

CURRENT VALUES  
MM2617 18500.000  
MM2612 0.830  
MFG0506 0.000  
MFG0603 0.000  
MFG0901 25.000

INITIAL CONDITIONS  
TIME 12:39:29  
RUN# 8 000  
RECUPROG 99 000  
NB ALT -357.580  
NB MACH 0.000  
NB EQ AS 0.000  
INS NZ 0.999  
INT FUEL 13843.000

- Single
- Quad
- 4-Stack
- 3-tier
- 2-tier
- Nyquist

- AVG
- INST
- PEAK
- THIST

BLOCK FILTER

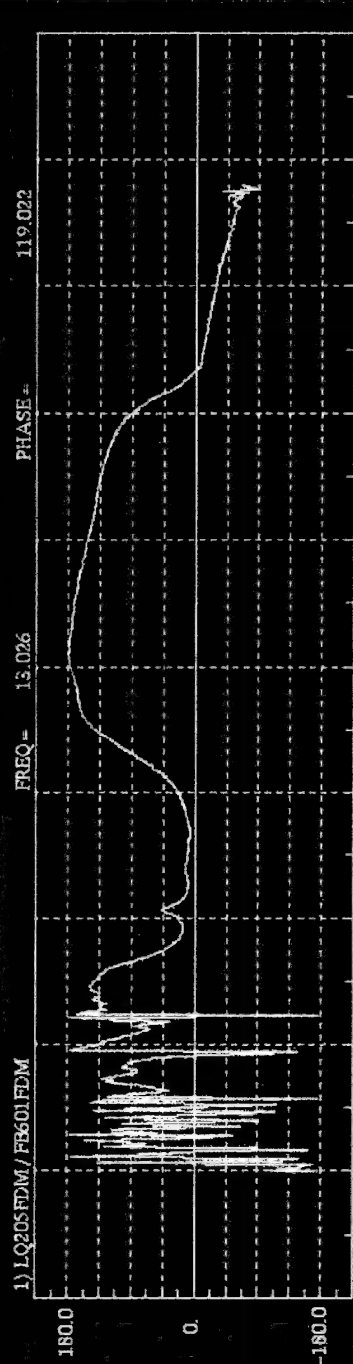
Batch Print

Color Hard Copy

B/W Hard Copy

SAVE

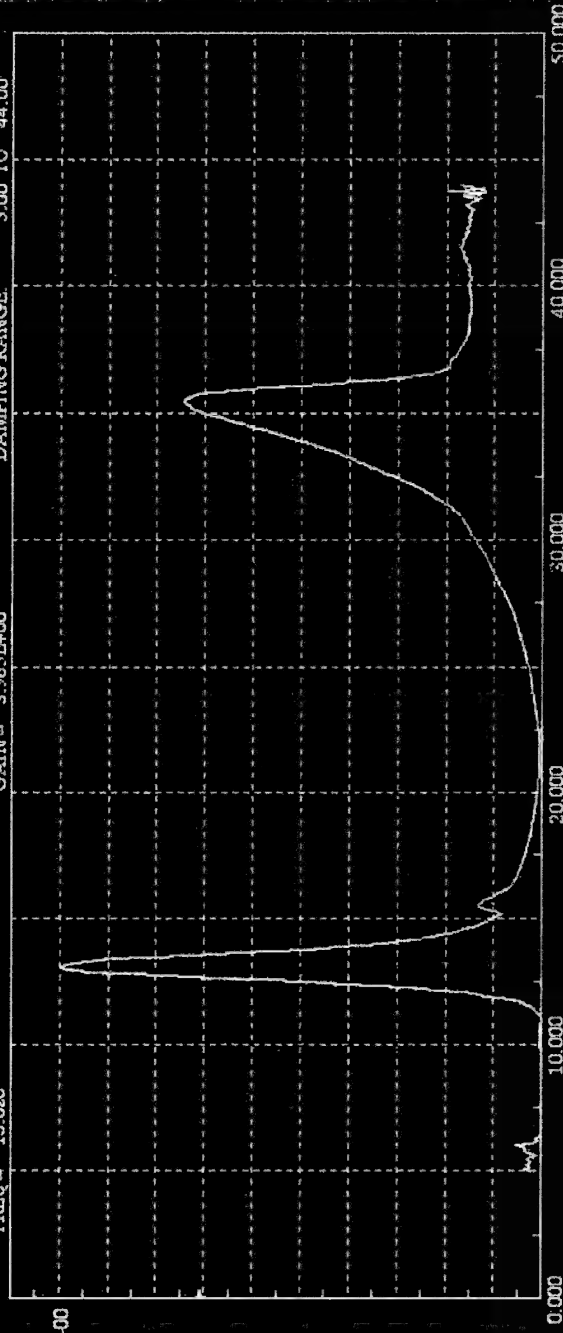
PRINT



PLOT RANGE:  
DAMPING RANGE: 5.00 TO 44.00

GAIN = 3.965E+00

FREQ = 13.026



Last Run Saved: 003

FREQUENCY (HERTZ)

Run 002 restored

NO FFT AVG WINDOW & OVRP  
HANN 75%

PHASE

FREQUENCY (Hz)	DAMP (g)
13.026	0.067
35.504	0.056
43.764	0.008
37.013	0.363
41.540	N/A
43.605	N/A
41.222	N/A
43.208	N/A
42.096	N/A
40.984	N/A

FTCU STATUS  
STATUS: RUN  
SURF: STAB  
PHASE: SYM  
BIAS: 0.0  
AMP: 30  
EXC: SWEEP

FFT PROCESSING INFO  
SAMPLE SIZE 71680  
FREQU RES 0.0794  
SAMPLE RATE 8192  
NO FFT AVG WINDOW & OVRP  
HANN 75%



17:38:18.314

00:00:00.000

HOME

OUT

IN

Altitude 1385

Velocity 0.000

Heading 115.1

Latitude 0.000

Longitude 0.000

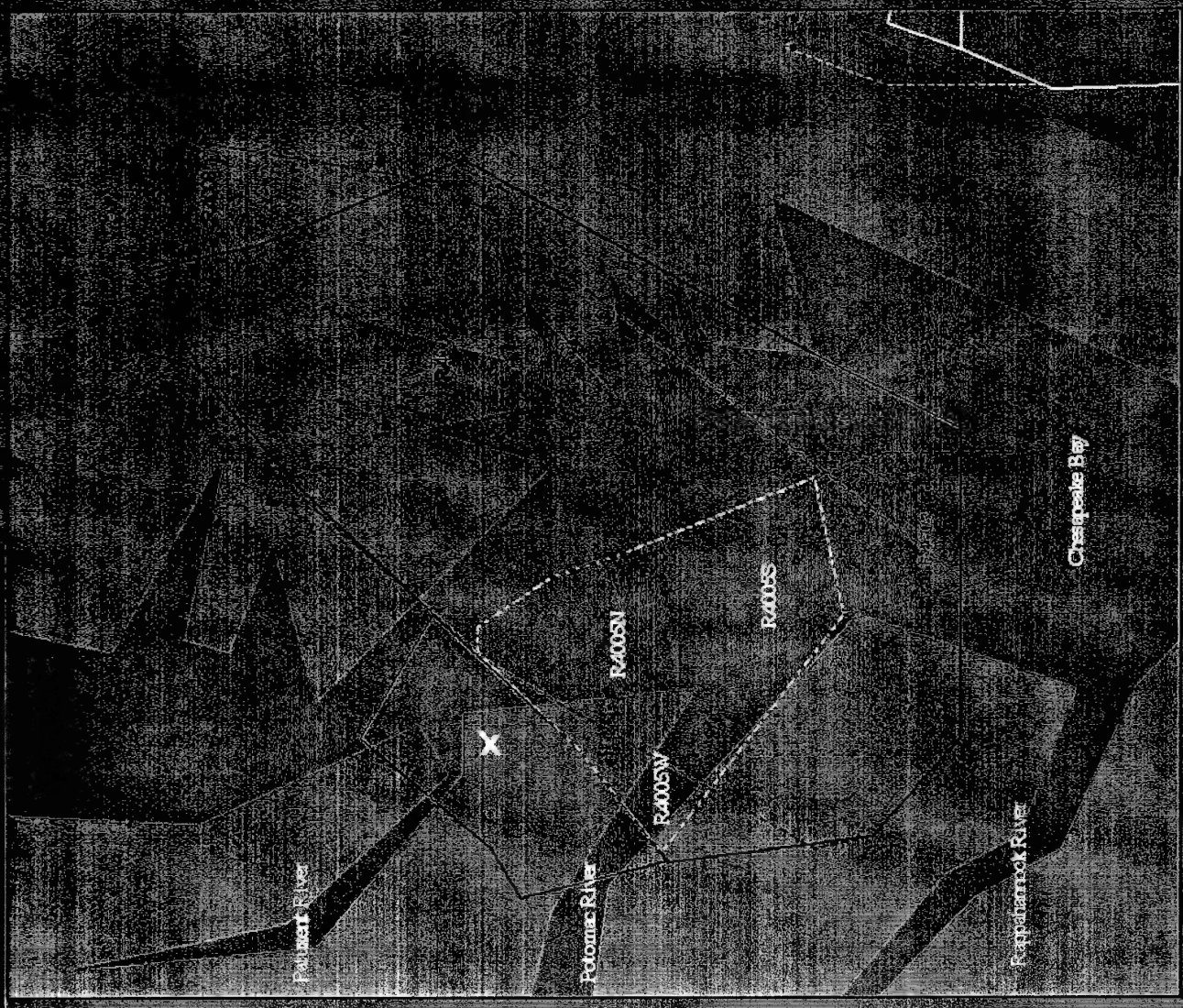
Range 0.000 miles

000.0 radial

Altitude 1385  
Velocity 0.000  
Heading 115.1  
Latitude 0.000  
Longitude 0.000  
Range 0.000 miles  
000.0 radial

✓	←
✓	---
✓	.....
60	Tail Length
5 miles	
2 miles	
1 mile	
✓	Grid Off
✓	INS
	GPS
✓	Aircraft
	Landscape

Undefined
Undefined
Undefined
Undefined
Undefined
Undefined
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Undefined
Undefined
Undefined
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Undefined

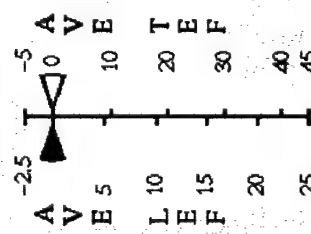
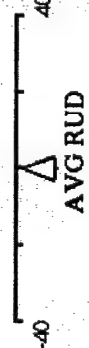
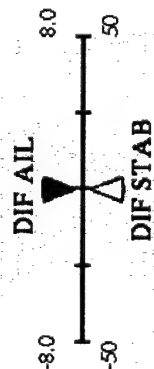
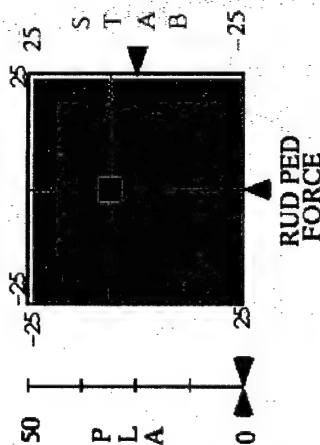
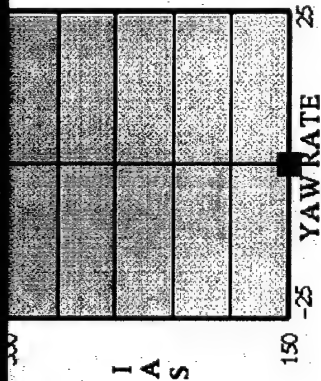
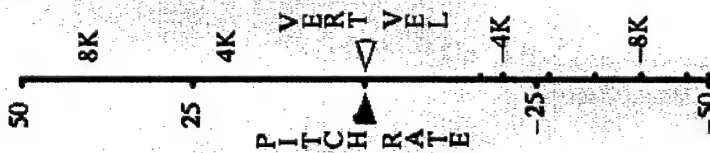
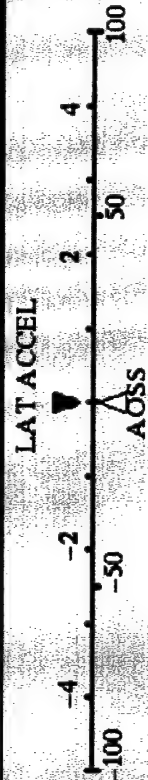
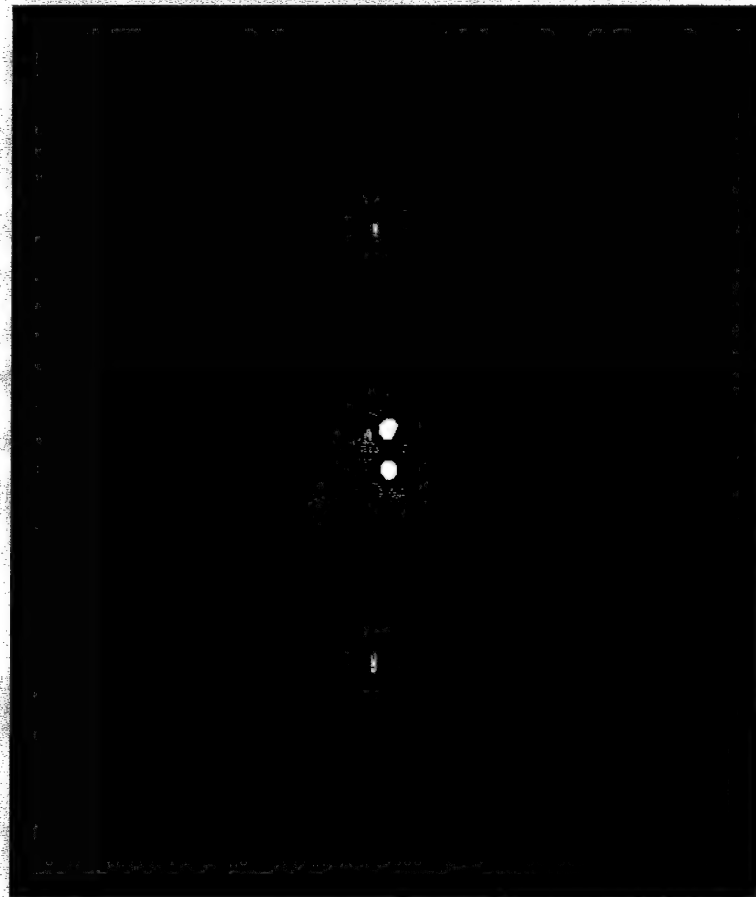
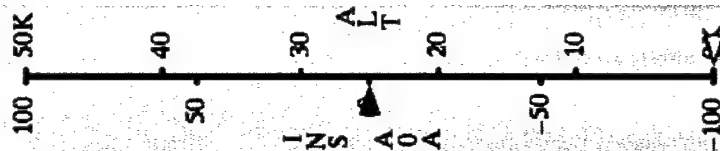
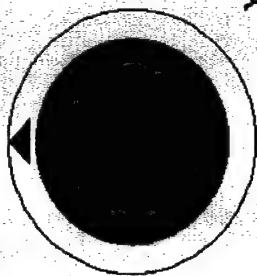


Aircraft Location Display (ALV Map)

18:01:45

ALT 0  
A/S 0  
MACH 0.000

DYN PRES: 0.00  
INS AOA: 0.00  
PITCH ATT: 0.00  
NZ: 0.00

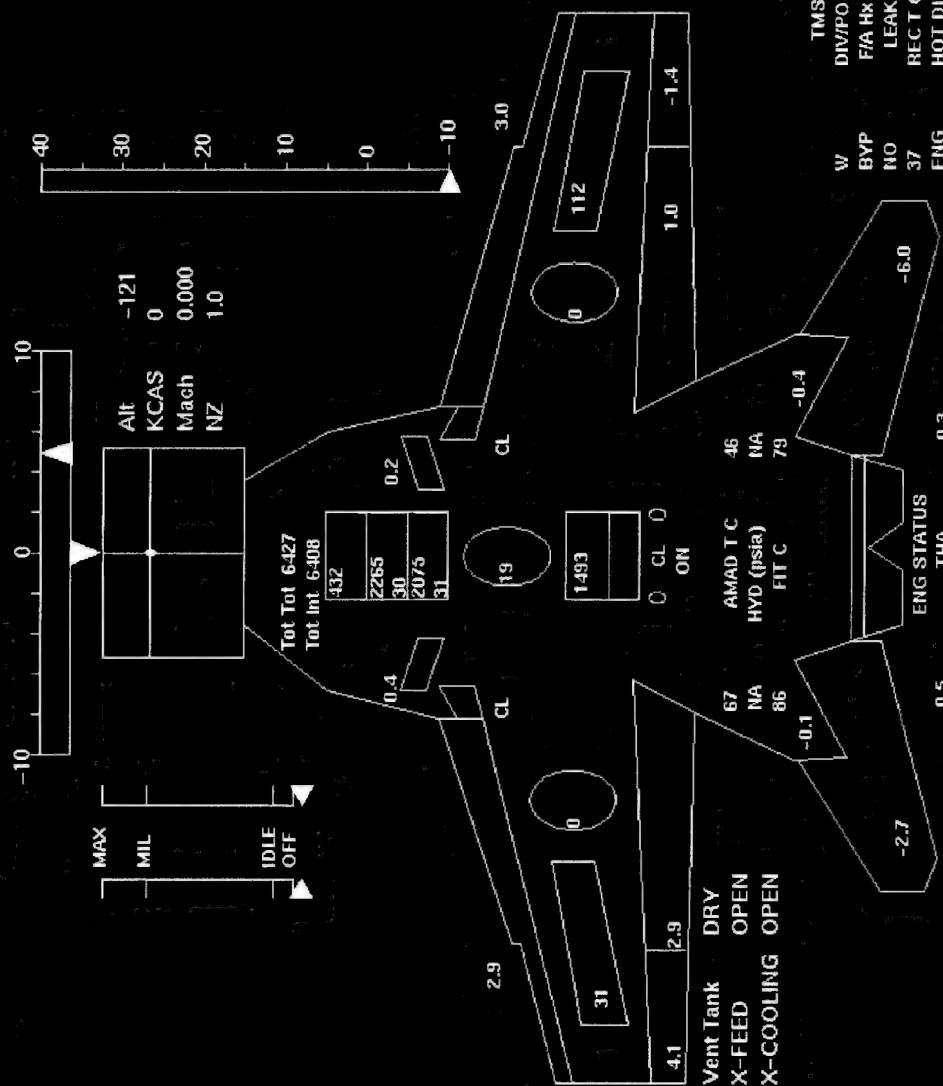


BINGO	HYD 5000	ECS DEL P	APU FIRE	L EGT	L ENG FIRE	R EGT	R ENG FIRE
FUEL LOW	FCS	OBOGS DEG	FADEC	L OIL HOT	HYD 1 HOT	R OIL HOT	HYD 2 HOT

Yaw Rate  
 Ny  
 Roll Angle  
 Roll Rate  
 Pitch Angle  
 Pitch Rate  
 AOA

Radar Alt  
 Nx  
 ROC  
 Q  
 Wt.  
 CG  
 Asymetry  
 bQ

Heading  
 Range  
 Bearing  
 Video  
 O/B Tape  
 TM Power  
 Tape Rem



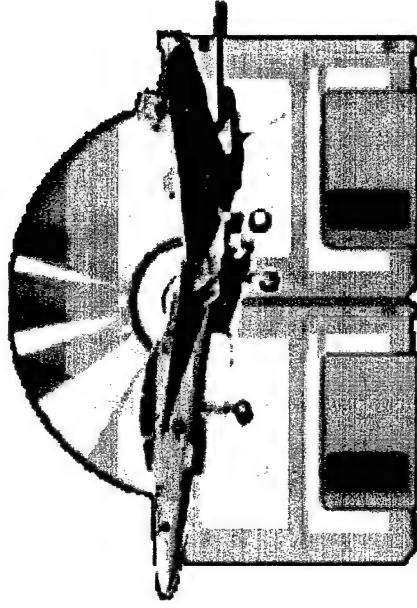
Memory Change Values  
 Stores Weight  
 WIP Code 4  
 WIP Code 6  
 WIP Code 8  
 WIP Code  
 Nz Ref  
 Flaps Sch

TMS  
 DIV/POS  
 F/A Hx  
 LEAK  
 RECT C  
 HOT DIV  
 W  
 BYP  
 NO  
 37  
 ENG

0.3  
 25  
 10  
 210  
 0  
 0  
 15  
 15  
 A  
 0  
 110

0.5  
 26  
 51  
 217  
 0  
 0  
 23  
 14  
 B  
 39  
 118

**Post Flight**



**Atlantic Test Range**

# Products and Services



## Data Conversion

→ EU, MDC, TSPI



## Classified Processing

→ Accredited for  
classified work.



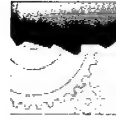
## Data Distribution

→ Web, Secure FTP, CD,  
ZIP, Floppy, etc.



## Data Merging

→ Merging data from  
different sources.



## Analysis Tools

→ Different tools are  
available--Project specific.

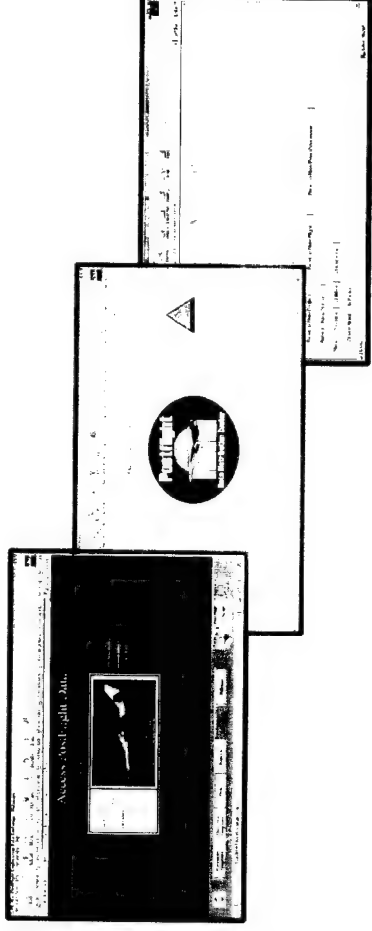


## Other Services

→ Digital Filters,  
Calculated  
Parameters



# Web Interfaces to Flight Data



Three Web sites exist for Customer to:

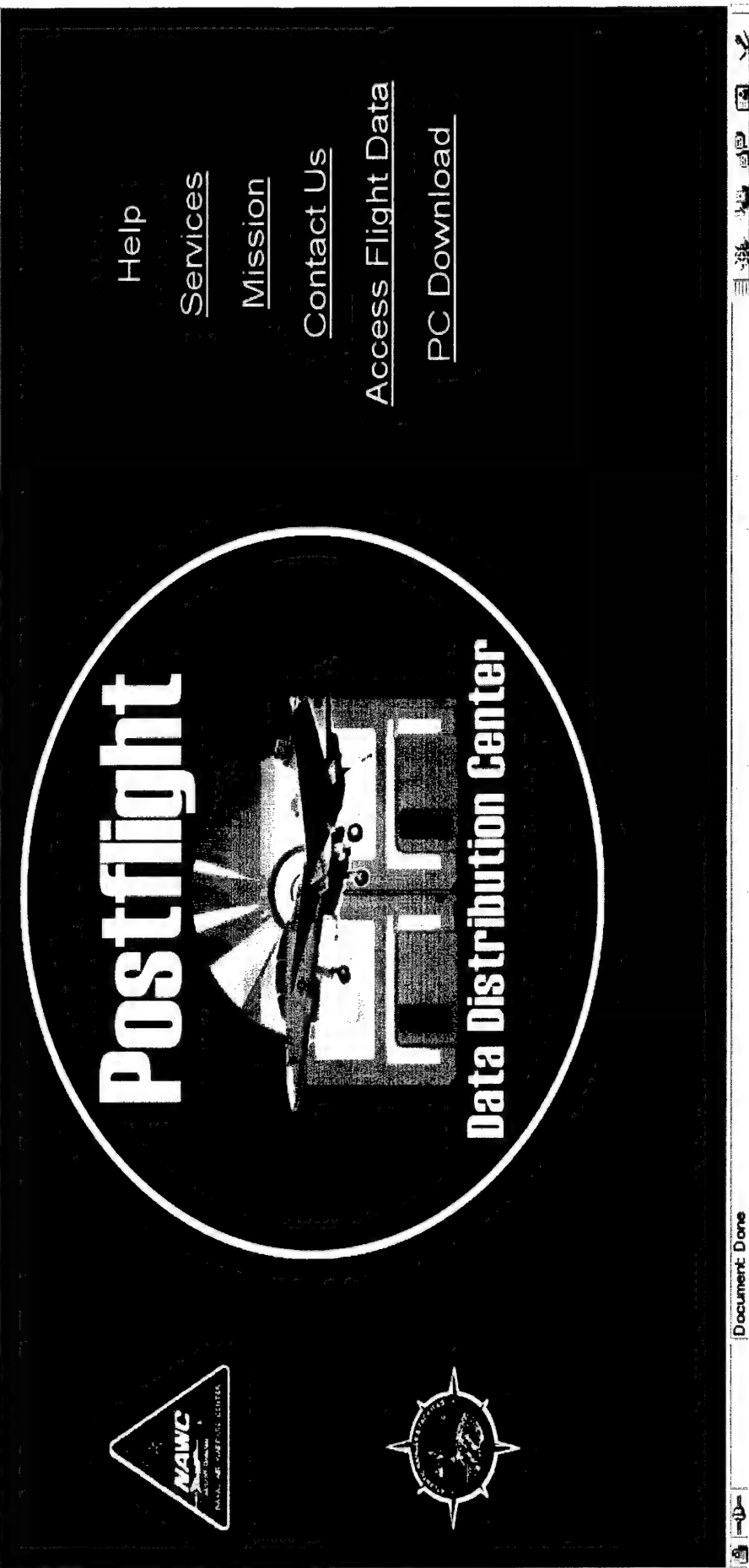
- Analyze Flight Data on line.
- Simply Downloading ASCII Flight Data from any ATR Post Flight Group.
- Interface with ASAP (Advanced Scientific Analysis Package).

# On-Line Data Analysis Post Flight Web

PostFlight Data Distribution Center - Netscape  
File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Shop Stop

Bac-PostFlt-Ctr Bac-PEDEX Neb-Rim205 Gry-PostFlt-Ctr Gry-Pedex PEDEX-Mattn PEDEX: Michele WorkREQST ASAP RCS-Cmds Neb-Mail-pl NetSite: https://postflight\_pub.sunbelt.navy.mil/html/plddc/ What's Related

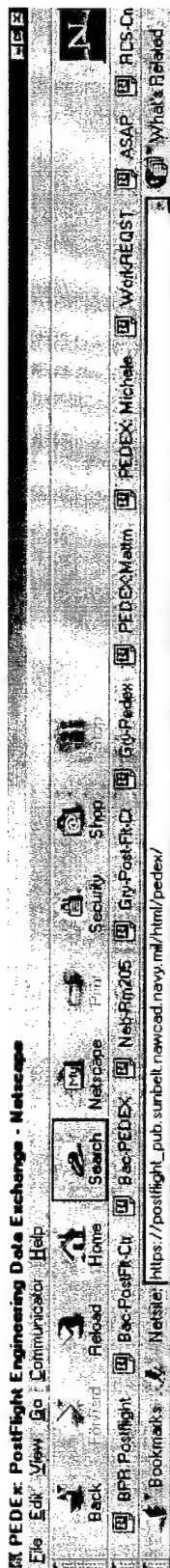


The banner features a dark background with a large white circle in the center. Inside the circle is a stylized image of a ship's hull and a propeller. The word "Postflight" is written in large, bold, white letters on the left side of the circle, and "Data Distribution Center" is written in smaller, bold, white letters on the right side. Below the circle, there is a small logo for "NAWC" (Naval Air Warfare Center) and a compass rose.

Help  
Services  
Mission  
Contact Us  
Access Flight Data  
PC Download


Document: Done

# Access Flight Data



## Access PostFlight Data

Your Current Settings Are

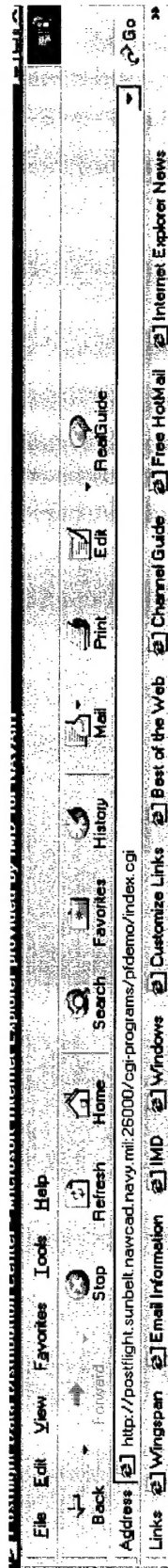
<b>Project:</b> s3b	
<b>Flight:</b> test59C	
<b>Parameters:</b> brown	
<b>TimeSlice:</b> brown	

[Helpful Hints](#)  
[What's New](#)



Search the Internet for information

# Post Flight Web for all ATR Customers



## Atlantic Test Range

**Post Flight Team**  
TELEMETRY  
Services  
Mission  
Contact Us

Action Menu
Download Data
Upload Data
Add New Users
Edit Users
Add New Shared Folder
Edit Shared Folder
Folder Cleanup

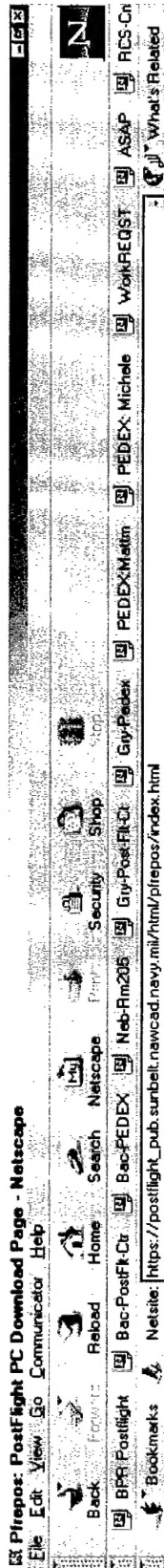


DoD Warning

This Site Serves EW, GPS, Photogrammetrics, RCCS, and Telemetry Customers

Done Local Internet

# PC Download of ASCII Flight Data



## PC Download



Select [FOLDER], [PROJECT] and [FLIGHT] then [CONTINUE] to display a list of files to download

Select a folder, then click	Select a Project, then click	Select a Flight, then click
<input type="button" value="SET FOLDER"/>	<input type="button" value="SET PROJECT"/>	<input type="button" value="SET FLIGHT"/>
Name: Andy : brown	Name: Description	Name: Description
<input type="text" value="s3b :"/>	<input type="text" value="s3b :"/>	<input type="text" value="test50C :"/>





# Web Version of ASAP

## Advanced Scientific Analysis Package

http://gyphion.surfbelt.nawcad.navy.mil:26001/cgi-programs/broker - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit

Address http://gyphion.surfbelt.nawcad.navy.mil:26001/cgi-programs/broker

### A dvanced S cientific A nalysis P ackage

Project is Demo 1 Flight is 2 Event is 2036

Printer is Color Laser in Bldg 1490

Titles

demo1
DEMO Number 555
Flight Number 2 25OCT1992
roll right 2
test 36
Footnotes
Maneuver Number 036

Select a New Project Select a New Flight Select a New Event/Maneuver

Select a New Printer

Plots Reports Utilities Comments

Check Batch Job Status No Batch Jobs Running

Done Local Internet

# Post Flight

## Network Configuration

